

Epi Notes



North Carolina Department of Health and Human Services ♦ Division of Public Health

2000-2

September - November 2000

In This Issue:

Influenza Surveillance	1
New Immunization Legislation for Long-Term Care Facilities	2
Gonorrhea and Chlamydial Infection in North Carolina's Incarcerated Youth	2
Indoor Combustion and Human Health	3
Hepatitis C - Fact or Fiction?	4
Public Health Responding to Bioterrorism	5
Bats in Buildings	5
Talking to Your School Administrators About the 2001 Youth Risk Behavior Survey	6
State Receives Grants to Study Long-Term Health Effects of 1999 Floods	7
Student Project on Antibiotic Resistance Under Way	7
Rapid Ethnographic Community Assessment Process (RECAP)	8
Canine Leishmaniasis Outbreak in the United States	9
Reported Communicable Diseases	10
Rabies Information for Healthcare Providers	11
Contact Information	11

Influenza Surveillance

*Prepared by Dr. J. Newton MacCormack, Head,
General Communicable Disease Control Branch*

The approach of cold weather heralds the "flu" season. Influenza surveillance is conducted in several different ways in North Carolina.

For a number of years, the Centers for Disease Control and Prevention (CDC) has published information in the *Morbidity and Mortality Weekly Report* about deaths from pneumonia and influenza in 122 major cities. Charlotte is the only North Carolina city in this system.

Also, each state public agency makes a weekly estimate of the level of influenza activity in its jurisdiction beginning in the fall and extending into the spring. The categories of activity used in this system are "no activity," "sporadic," "regional," and "widespread." These estimates are available on the CDC website (www.cdc.gov).

In collaboration with the CDC, North Carolina has a surveillance system for "influenza-like illness" (ILI) that involves about 20 North Carolina medical clinics and several local health departments across the state. Each practice reports the number of cases of ILI in four age categories, along with the total number of patients seen each week, to the CDC either by phone or internet linkage. This system operates each season, from October through early May. During the coming season, periodic feedback on the findings in this system will be provided to local health directors via e-mail.

Finally, to supplement these systems, the State Laboratory of Public Health receives specimens for influenza virus isolation from college student health services in the state, one of the medical clinics participating in the ILI surveillance system, or other clinics. This is a critical component of influenza surveillance, as only laboratory-based surveillance can detect and identify new strains of influenza as they appear in a population. ■

New Immunization Legislation for Long-Term Care Facilities

Prepared by Susan Morgan, Health Promotion and Chronic Disease Section, and Lisa Abatemarco, Assistant Head, Epidemiology Section Office



During the 2000 Legislative Session, the General Assembly passed and Governor Hunt signed SB 1234 – “An Act to Require that Adult Care Homes and Nursing Homes Ensure that Residents and Employees are Immunized Against Influenza Virus and . . . Pneumococcal Virus.” The full text of the bill can be found at: <http://www.ncga.state.nc.us/html1999/bills/AllVersions/Senate/s1234vc.html>.

As stated in the title, residents AND employees are to be vaccinated. There are TWO effective dates: The pneumococcal vaccine requirement took effect September 1, 2000 and the influenza vaccine requirement is effective September 1, 2001.

While the Fiscal Note attached to the legislation states that all costs for the patient vaccines will be reimbursed by Medicaid, Medicare or private insurance, there is no provision for the reimbursement of employee vaccines. It has been suggested that facilities can include these costs in their future rate setting calculations. However, there will probably be requests to Local Health Departments to assist with these vaccinations.

While the CDC has cautioned that there may be delays in the distribution of these vaccines this fall, they continue to recommend that patients and employees in adult care and in nursing and long-term facility care continue with routine vaccination procedures. For additional information from CDC, go to the following web address: www.cdc.gov/od/oc/media/pressrel/r2k0622h.htm. ■

Gonorrhea and Chlamydial Infection in North Carolina's Incarcerated Youth

Prepared by Kim Fox, Medical Epidemiologist, HIV/STD Prevention and Care Branch

Since November 1999, the HIV/STD Prevention and Care Branch and the Department of Juvenile Justice and Delinquency Prevention have screened incarcerated boys for sexually transmitted diseases using newly available urine-based tests. This project was initiated because girls admitted to the training schools had substantial levels of infection (9.9% with gonorrhea and 13.1% with chlamydia in a recent year) and these infections, especially chlamydia, are often asymptomatic in both males and females. Published studies of STDs in incarcerated male youth and similar projects in other states have found prevalences of gonorrhea around 2% and prevalences of chlamydia ranging from 7% to 10%. The availability of urine-based tests allows screening for these infections without the discomfort of a urethral swab.

Our screening project provides gonorrhea and chlamydia testing for boys who are convicted of criminal offenses and committed to one of five training schools or the boundover center in North Carolina. Project initiation involved advanced training for the school nurses on the problem of STDs among adolescents and incarcerated populations, and on the treatment of STDs and counseling regarding partner notification and risk reduction. Arrangements were made with the University of North Carolina to perform all testing using urine-based ligase-chain reaction (LCR) tests for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. Standing orders were prepared at each school and drugs provided by the HIV/STD Prevention and Care Branch so that treatment could be administered by school nursing personnel immediately on receiving a positive test result.

Since November 1, 1999, 660 boys have been tested. Chlamydial infection has been found in 46 (7.0%) of the boys, with gonorrhea in 12 (1.8%). Six of these boys were infected with both gonorrhea and chlamydia. Based on interim analysis of a subset of 337 boys with complete data, chlamydial prevalence was higher among African-Americans than whites (8.2% vs. 1.0%, $P=.02$) and among older youths (ages 16-17: 10.6%, ages 14-15: 5.0%, ages 11-13: 0%; $P=.04$). There was a trend toward higher prevalence of chlamydial infection among those using marijuana (5.8% vs. 2.5%, $P=0.2$), smokers

(6.2% vs. 3.8%, $P=0.3$), and those from single-parent homes (6.8% vs. 2.2%, $P=0.1$). There was no correlation with alcohol use, criminal history, substance abuse assessment, or urban residence.

“...96% of cases would have been missed without the screening provided by this project.”

Logs kept at each school document treatment, counseling, and partner referral for each infected boy, provided mostly on the day that results were received. Of the boys identified with gonorrhea or chlamydial infection to date, only two (one with gonorrhea and one with chlamydia) had symptoms suggestive of urethritis. Since testing was previously available only for symptomatic boys, 50 of the 52 infected boys (96%) would have been missed without the screening provided by this project. Potential avenues for continuing STD screening in this population are being explored.■

Indoor Combustion and Human Health

Prepared by William Service, Industrial Hygiene Consultant, Occupational and Environmental Epidemiology Branch

Even the most efficient, clean-burning combustion appliances like unvented gas logs and gas cooking ranges and stoves generate air contaminants that can have a deleterious impact on the indoor environment and human health. This is a review of the sources and nature of indoor combustion products and the impact on human health that can result from exposure.

When carbon-based fuels (e.g., wood, coal, petroleum products, paraffin) are burned with complete efficiency, four products result: heat, carbon dioxide, nitrogen oxides, and water vapor. While some appliances like gas logs and gas ranges burn fuel very efficiently, there will always be other combustion products because of inefficiency or fuel content. When combustion is incomplete, gases like carbon monoxide and sulfur oxides may be generated.

Even with completely efficient combustion, contaminants are generated that can affect the health of building occupants. Nitrogen oxides can cause upper respiratory irritation and temporary pulmonary function deficits. A number of epidemiologic investigations have identified higher incidence of respiratory symptoms and illness,

including asthma exacerbations, among children that lived in homes with unvented gas appliances¹⁻⁴. Water vapor from combustion is not toxic, but the resulting increase in humidity indoors can create favorable growth conditions for biological indoor air contaminant sources like house dust mites and mold. Inhalation of aerosols from these organisms can cause illness, including allergic rhinitis and atopic asthma exacerbation.

Indoor exposure to products of inefficient or incomplete combustion can cause illness or symptoms that can range from mucous membrane irritation to life-threatening chemical asphyxia. Each year, carbon monoxide (CO) exposure accounts for approximately 200 unintentional poisoning fatalities and many more non-fatal poisonings in the US⁵. Indoor CO poisoning usually results from the operation of malfunctioning unvented space heaters or unintended spillage of combustion products from appliances, furnaces, and fireplaces that are vented to the outdoors. Smoke from combustion typically acts as a mucous membrane irritant. It is also likely that carcinogenic hydrocarbons (e.g., benzene) are adsorbed on the smoke particles. Sulfur oxides are generated when fuels that contain sulfur (coal, kerosene) are burned. Sulfur oxides irritate mucous membrane when inhaled.

Some indoor sources of combustion products (kerosene and gas space heaters) are designed to vent directly to the indoor environment. Other sources may contaminate indoor air when a stack or chimney back-drafts. Modern unvented LP or natural gas logs and natural gas ranges and stoves burn fuel more efficiently and are less likely to generate significant amounts of carbon monoxide because of improved design. However, these appliances will always generate nitrogen oxides and water vapor when in operation. Kerosene heaters and unvented gas space heaters may be used as a primary heat source in homes.

“...the safest recommendation is that all combustion appliances should be vented to the outdoors.”

These heaters generate enough water vapor to cause condensation and mold growth on the indoor surface of poorly insulated exterior walls. These circumstances are most likely to occur in low-income housing. Fireplaces, hot water heaters, and combustion furnaces that are supposed to be vented to the outdoors can back-draft, spilling combustion products indoors. These events can result in life threatening CO exposure. Additionally,

environmental tobacco smoke is an irritant, an asthma trigger, and a known human carcinogen.

With any indoor source of combustion, variables like time of use, fuel type, room size, air change rate, and indoor moisture conditions will determine contaminant exposure. Because it is not possible to standardize these variables, the safest recommendation is that all combustion appliances should be vented to the outdoors.

Activities that generate combustion products, such as tobacco smoking, should not be done indoors unless there is adequate exhaust ventilation.

References

1. Indoor Air Pollution and Asthma: Results From a Panel Study. Ostro BD, Lipsett MJ, Mann MB, Selner JK. *American Journal of Respiratory Critical Care Medicine*. 149(6): 1400-6, 1994.
2. Adverse effects of the Indoor Environment on Respiratory Health in Primary School Children. Cuijpers CE, Swaen GN, Wesselin G, Sturmans F, Wouters EF. *Environmental Respiration*. 68(1):11-23, 1995.
3. The Prevalence of Respiratory Symptoms in South Australian Preschool Children. Factors Associated with Indoor Air Quality. Volkmer RE, Ruffin RE, Wigg NR, Davies N. *Journal of Pediatric Child Health*. 31(2):116-20, 1995.
4. Association of Respiratory Symptoms and Lung Function in Young Adults with Use of Domestic Gas Appliances. Jarvis D, Chinn S, Luczynska C, Burney P. *Lancet*. 347(8999):426-31, 1996.
5. USEPA web site www.epa.gov/iaq. Ref. Consumer Products Safety Commission. ■

Hepatitis C - Fact or Fiction?

Prepared by Joyce Reddington Wagner, Infectious Disease Epidemiologist, General Communicable Disease Control Branch

The numbers of reported cases of **acute** hepatitis C in North Carolina are not impressive; they do not paint a picture of widespread disease, and yet we know large numbers of cases of positive anti-HCV test results are reviewed each week, and most represent chronic disease. The Centers for Disease Control and Prevention (CDC) case definition acknowledges only documented acute cases of hepatitis C. Tables based on this definition, such as the one below, are misleading as they suggest that North Carolina residents do not have a high incidence of this disease. The most current reporting information (9/9/00) shows only 13 acute cases reported this year compared to 29 cases at the same time last year, but these numbers do not truly demonstrate the prevalence of hepatitis C in our state.

NC Reported Cases 1991-99 and Incidence Rate (per 100,000 persons)

<u>Year</u>	<u># Cases</u>	<u>Incidence</u>
1991	114	1.69
1992	91	1.34
1993	80	1.16
1994	59	0.85
1995	64	0.89
1996	46	0.63
1997	51	0.69
1998	26	0.34
1999	34	0.44

Not all persons who are exposed to hepatitis C will develop chronic disease, and some who do will become stable. Some may even discover their disease when they donate blood or have a routine checkup, never anticipating that hepatitis C will be a finding. Others will go on to develop cirrhosis and more progressive disease, possibly leading to the need for a liver transplant.

“There is no serologic marker for acute hepatitis C as there is for both hepatitis A and B...”

There is no serologic marker for acute hepatitis C as there is for both hepatitis A and B, so it is often difficult to distinguish new cases from exacerbations of old disease by symptoms alone. Most individuals who test positive for this disease are chronically infected. They are seeking medical attention because they are beginning to experience symptoms of the disease such as fatigue, abdominal pain, and malaise (jaundice is uncommon). Upon testing, their liver enzymes are found to be seriously elevated. The two most important aspects of care for these persons are counseling about their disease and referral to an appropriate specialist. Not all persons with this disease will qualify for treatment; many factors are involved. This is why medical evaluation is so important.

Hepatitis C is known to be transmitted primarily through blood transfusions (prior to 1992) and intravenous drug use. Other risks of transmission include accidental needlestick injuries, organ transplantation and hemodialysis. Monogamous sexual transmission and perinatal transmission are quite low; pregnancy should not be discouraged, nor should breastfeeding.

Detecting cases is done through testing. However, many local and state health departments do not have funds available to provide such testing. This becomes more burdensome when there are national alerts to educate

persons about the possible need for testing. Establishing a registry for chronic hepatitis C cases as we have with chronic hepatitis B carriers would facilitate surveillance for this disease. Such a system at the state level will enhance national reporting of the disease and produce a more accurate picture of chronic cases of hepatitis C in the U.S. and in North Carolina. Enhanced reporting may result in increased legislative support for funding needs associated with this disease. This goal was recently endorsed by a *draft* proposal from the Council of State and Territorial Epidemiologists (CSTE). This proposal includes an explanation of the need for a change in the current hepatitis C case definition. The change is within the laboratory criteria of elevated serum aminotransferase levels which would change from >2.5 times the upper limits of normal to >7 times the upper limits of normal. This should further differentiate an acute case from a chronic case.

The ultimate goal in managing hepatitis C is two-fold: prevention of new cases and prevention of complications with, or advancement of, chronic disease. Establishing a tracking system for this disease will assist state and local health departments in determining the effectiveness of hepatitis C prevention and control programs. ■

Public Health Responding to Bioterrorism

Prepared by Dr. Lou Turner, Director, State Laboratory of Public Health

Bioterrorism can be defined as an act of terrorism that uses or threatens the use of a biologic agent. Since many acts of bioterrorism are covert, they present different challenges and require emergency planning that involves the public health infrastructure. Because the initial detection of a covert biological attack will probably occur at the local level, disease surveillance systems at state and local health agencies must be capable of detecting unusual patterns of disease or clusters of rare, unusual or unexplained illnesses. To respond to potential threats of bioterrorism, the N.C. Division of Public Health is developing a response and preparedness plan, as well as enhancing surveillance, detection and alert capabilities through grant funding from the Centers for Disease Control and Prevention.

As part of ongoing efforts to improve the state's response to a bioterrorist attack, the N.C. Department of Health and Human Services is conducting a one-day panel

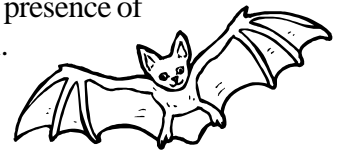
discussion and functional exercise. Invitees will include top state officials and key representatives from agencies that will play a critical role in response to a bioterrorist attack. This event is planned for November 16, 2000 and will be held in the College of Textiles on the NCSU Centennial Campus. ■

Bats in Buildings

Prepared by Ron Howell, Industrial Hygiene Consultant, and Lee Hunter, Public Health Veterinarian, Occupational and Environmental Epidemiology Branch

This year the Stanly County (N.C.) school system received complaints about the presence of bats and bat guano in a school.

The school was inspected by an industrial hygienist from the Occupational and Environmental Epidemiology Branch and a private "animal damage control" contractor. The inspection revealed thousands of bats in ceilings and walls of buildings, hundreds of pounds of guano and "guano spillage" down some walls.



Remediation, including exclusion of the bats, removal of hundreds of pounds of guano and cleaning using disinfectants while wearing the proper personal protective equipment (PPE), was billed in excess of \$90,000.

There was concern within the community about the health risks to children posed by bats. The concerns included rabies, fungal-related diseases such as histoplasmosis, and parasites associated with bats as well as the physical damage done to the buildings.

Transmission of rabies is usually through the bite of an animal that is shedding the virus in its saliva. Therefore, merely being in the vicinity of a bat or touching a bat, even a rabid one, is not usually indication that post-exposure rabies prophylaxis is needed. Any bite by a bat should be considered as a risk for rabies transmission.

The two primary fungi that have been identified in bat droppings have been **Histoplasma capsulatum** (causing histoplasmosis) and **Cryptococcus neoformans** (causing cryptococcosis). Unlike histoplasmosis, outbreaks of



cryptococcosis traced to specific environmental sources, such as bat guano, reportedly have not been clearly described in the literature.

Histoplasmosis symptoms vary greatly; the vast majorities of infected people are asymptomatic or experience only mild flu-like symptoms. Respiratory symptoms, fever, chest pains, chills, shortness of breath, joint and muscle pain, and malaise characterize the acute form of histoplasmosis. When symptoms occur, they usually begin within 3 to 17 days after exposure. Chronic lung disease associated with histoplasmosis resembles tuberculosis and can worsen over months or years. The most severe, but rare, form of this disease is disseminated histoplasmosis, which involves spreading of the fungus to other organs outside the lungs. This form is fatal unless treated.

The dose or specific number of inhaled spores needed to cause the disease is unknown, but a person's age and susceptibility are associated risks in developing symptomatic forms of this illness. Infants, young children, older persons, and persons with chronic lung disease are at increased risk for developing histoplasmosis. Persons with weakened immune systems are at greatest risk for developing a severe or disseminated form of this disease. (*Histoplasmosis, Protecting Workers At Risk*, <http://www.cdc.gov/niosh/tc97146.html>)

Bat roosts may also harbor parasites that may invade occupied areas of the building, particularly after exclusion efforts have taken place. Although most parasites associated with bats will die after the bats are excluded, some may live for several weeks, and they can bite and irritate building occupants. Pest control inspection and control plans should be incorporated into the exclusion/remediation plan for the building.

Inspection for bats should be done by a person trained in animal damage control and with experience in bat exclusion. Exclusion allows the bats to leave and not be able to return. No bats should be handled without proper equipment to prevent bites.

Structural renovation must be accomplished to prevent recolonization through known entry/exit points. This may include repairing and/or replacing eaves, soffits, fascias, and other exterior components of the building. The use of sealants, caulks and foam products may be needed to seal even the smallest openings (1/4 inch).

Remediation should be done in situations where there is a risk of disturbing guano and spreading disease-causing organisms by airborne transmission (i.e., when guano is deposited in areas that could be affected by the building's air handling system). Remediation should be done by personnel who have been instructed in the correct techniques and in using PPE (see <http://www.cdc.gov/niosh/tc97146.html>). If you have any questions, please feel free to contact Dr. Lee Hunter or Ron Howell at (919) 733-3410. ■

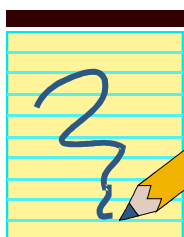
Talking to Your School Administrators About the 2001 Youth Risk Behavior Survey

Prepared by Michael Sanderson, Senior Advisor, Healthy Schools, and Judy Owen O'Dowd, Special Projects and Policy Coordinator, HIV/STD Prevention and Care Branch

- **Your help is needed! Will you call a school administrator?**
- **The Youth Risk Behavior Survey (YRBS)** is a nationally developed survey by the Centers for Disease Control and Prevention that assesses risk behaviors in grades six through twelve. The survey looks at health and safety behaviors that may put youth in your community at risk, including school violence, tobacco use, alcohol and other drug use, nutrition, physical activity, vehicle safety, health services, and in high school students, behaviors that result in HIV/STD infection, and unintended pregnancies. The YRBS is currently the only instrument in North Carolina informing us about the health risks of middle and high school students.
- **The YRBS is scheduled to be administered in February 2001** in approximately 160 randomly sampled middle and high schools. The YRBS has been administered every two years in North Carolina since 1993. *Unfortunately, the YRBS was not administered in North Carolina in 1999.* Consequently, health and school officials do not have the 1999 data to compare and assess how well (or even if) on-going programs are working. There are no 1999 data to compare North Carolina youth with the youth in other states and the nation. **North Carolina needs the 2001 data from the YRBS.**

- The Division of Public Health and the Department of Public Instruction need **you** to advocate for the implementation of the 2001 YRBS. School superintendents and/or principals may not understand the survey's importance and may elect not to participate; participation is not required. You can talk with your county's school superintendent to let him/her know how valuable the data is to public health programs and to many school programs. You can urge the superintendent to encourage school principals to have their schools participate in the survey. **This survey's data can make a difference** in helping our youth to adopt healthy behaviors and lifestyles.

Facts about the Youth Risk Behavior Survey (YRBS):



- ◆ The survey is administered *confidentially*; **students, schools and school systems can not be identified.**
- ◆ The survey is only administered during odd calendar years.

- ◆ The survey is administered **in one class period** in a few classes at each of the approximately 160 randomly selected middle and high schools.
- ◆ The only cost to school systems is time; the paper work and administration will be handled by other organizations.
- ◆ The survey is a natural fit with the state's ABC plan because **healthy children learn better.**
- ◆ Continuation of school and health **funding may depend on survey data** – for example, Safe and Drug Free Schools and Healthy Schools funds.
- ◆ The Youth Risk Behavior Survey is the only comprehensive survey that measures youth risk behaviors, and it can be used as an assessment tool.
- ◆ Youth behaviors influence the three leading causes of death in adulthood, which are heart disease, cancer, and stroke. If we can intervene in risk behaviors during youth, we can produce healthier, more productive adults.

For more information about the 2001 YRBS, contact Sherry Lehman at the Department of Public Instruction, (919) 715-1748. ■

State Receives Grants to Study Long-Term Health Effects of 1999 Floods

Prepared by Bill Pate, Industrial Hygiene Consultant, Occupational and Environmental Epidemiology Branch

The Robert Wood Johnson Foundation and the Burroughs-Wellcome Fund have awarded grants to the Division of Public Health, Epidemiology and Communicable Disease Section, Occupational and Environmental Epidemiology Branch, to investigate the prevalence of potentially harmful bacteria in counties flooded by Hurricane Floyd last year. The study will attempt to determine the long-term impact of the flooding on public health. The information will be used to develop programs and policies to protect people's health, both now and in the future. The one-year project will be a cooperative effort with the University of North Carolina Schools of Medicine and Public Health and the University of Maryland School of Medicine. ■

Student Project on Antibiotic Resistance Underway

Prepared by Dr. J. Newton MacCormack, Head, General Communicable Disease Control Branch

Until relatively recently, the traditional practice of Public Health has not been actively involved in the increasingly important issue of antibiotic resistance. Except as it has impacted those areas of clinical practice overlapping Public Health, like treatment of sexually transmitted diseases and chemoprophylaxis of meningococcal disease, the emergence of problems like methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE), and penicillin-resistant pneumococci have largely been left to the private and academic health care sectors. However, the problem is worsening rather than improving and has, accordingly, become difficult to ignore as an issue affecting the public health in its broadest sense.

As part of her coursework at the University of North Carolina School of Public Health this fall, a graduate student has elected to review the knotty problem of antimicrobial resistance and recommend action steps that can be taken by the Public Health community to help solve this problem. ■

Rapid Ethnographic Community Assessment Process (RECAP)

Prepared by Beverly Cummings Wilson, Public Health Prevention Specialist, and Judy Owen O'Dowd, Public Health Policy and Special Projects Coordinator, HIV/STD Prevention and Care Branch



One of our key syphilis elimination activities is to conduct Rapid Ethnographic Community Assessments

(RECAPs). Seven counties with high syphilis morbidity have completed RECAPs. The objectives of the county RECAPs were to:

- ◆ Identify behavioral factors that put persons at risk for syphilis;
- ◆ Assess knowledge, attitudes and beliefs pertaining to syphilis (e.g., self-perception of risk and disease signs/symptoms); and
- ◆ Ascertain the level of knowledge of, and satisfaction with, county health department STD services.

In Wake County, a national demonstration site for syphilis elimination, additional objectives were to:

- ◆ Identify health care seeking behaviors and provider access points for persons at risk for syphilis; and
- ◆ Assess community and provider impressions of syphilis elimination.

As of June 30, 2000, a total of 80 service providers and 216 community members had been interviewed. The seven assessments have yielded a profile of local populations at high risk for syphilis, local factors contributing to syphilis transmission, and local barriers to and facilitators of syphilis diagnosis, treatment and prevention. In addition, assessment data have identified community values, beliefs and attitudes that influence risk-reduction practices and STD prevention activities.

RECAP findings from throughout the state include the following:

- ◆ Services providers were generally knowledgeable about syphilis and many said it is a significant health problem in their counties. Service providers almost always expressed an interest in receiving more information on syphilis.

- ◆ Most community members appeared to be unfamiliar with syphilis, but were able to guess that syphilis is an STD. Community members often were confused about syphilis symptoms and transmission routes.
- ◆ Service providers said that high-risk circumstances for syphilis are typically poverty, drug addiction and homelessness.
- ◆ Providers said most of the clients they see are high risk, but do not view themselves as such because of lack of syphilis awareness.
- ◆ Community members did not consider themselves at risk for syphilis because they practice monogamy and use condoms.
- ◆ Service providers said that when community members suspect that they have an STD they either deny the possibility of infection, self-treat or consult sex partners and friends. As a last resort, community members seek professional medical assistance.
- ◆ Community members said that they would seek medical care for suspected syphilis infections if they noticed burning, itching, body odor, painful urination, genital pain or discharge.
- ◆ Almost all of the interviewed community members said that they would seek treatment at the health department or from a private physician.
- ◆ Very few community members were able to identify STD services available at the county health departments.
- ◆ The majority of persons who have received services in a health department's STD clinic were pleased with the quality of care.

These data are being used by the community task forces to guide and enhance program planning, implementation and evaluation. For more information contact Judy Owen-O'Dowd at (919) 733-9553. ■

Canine Leishmaniasis Outbreak in the United States

Prepared by Stephanie Kordick, Public Health Veterinarian, Occupational and Environmental Epidemiology Branch

Leishmaniasis is a protozoan disease of people and animals caused by one of a number of species within the genus *Leishmania*. Historically, leishmaniasis has been found in the United States as a result of importation of infected dogs or people. It is a zoonotic disease with both canines and humans as potential reservoirs, depending on the cycle of transmission. Transmission usually occurs through the bite of an infected sand fly; however, direct contact with open wounds and needle-sharing are also potential routes of exposure.

Leishmaniasis can appear in several forms, depending on the immune status of the patient and the species of parasite. Signs of disease in humans can range from simple cutaneous manifestations (skin ulcers, usually on the face, arms and legs; lesions on the mucocutaneous junctions) to the severe visceral form of the disease (fever, weight loss, hepatitis, splenomegaly, anemia). The disease in dogs is similar to that seen in humans, and as with humans, can be inapparent. The incubation period is usually a few months, but it can range from days to years.

“...early diagnosis and treatment is important in reducing morbidity and mortality...”

Earlier this year, leishmaniasis was diagnosed in a kennel of foxhounds (none of which had a history of foreign travel) in New York State. Molecular testing of dogs was conducted at the North Carolina State University College of Veterinary Medicine (NCSU-CVM). These dogs exhibited signs similar to those seen in human cases (wasting, edema, skin lesions, and bleeding disorders). Subsequently, a number of foxhound kennels in other states were found to have evidence of leishmaniasis, including four kennels in North Carolina. The species has not yet been identified; however, *L. donovoni infantum*, which can cause the more severe visceral form of the disease in humans, is suspected.

So far, the disease in canines has only been found in hound-type dogs, primarily foxhounds (although no other

group of dogs has been systematically tested the way foxhounds have). The appearance of limited distribution of disease in the dog population has led the Centers for Disease Control and Prevention (CDC) to speculate that disease transmission may be occurring through direct contact rather than a sand fly vector in the United States. However, evaluation of potential vectors (primarily sand flies) and additional reservoirs (rodents) is under way in North Carolina and other states.

Serologic evaluation of dog handlers in the New York kennel has been conducted and has not revealed any evidence that the organism is being transmitted to humans. Further evaluation of human contacts, including those in North Carolina, is currently under way.

Treatment of humans is generally successful once the disease has been diagnosed. However, early diagnosis and treatment is important in reducing morbidity and mortality, especially with the visceral form of leishmaniasis. Although no human cases of diseases have been found to be associated with the indigenous canine cases, physicians should be made aware of the possibility of acquiring this disease within the U.S.

Treatment of dogs is generally not successful. Therefore, even treated dogs with no signs of disease are potential reservoirs for human leishmaniasis infection.

The investigation in the United States has been a collaborative effort between local and state health departments in the affected states, CDC, the Walter Reed Army Institute of Research, and NCSU-CVM. The Masters of Foxhounds Association of America has also been instrumental in initiating testing efforts within its affiliated kennels, and halting movement of potentially infected animals until their disease status has been more clearly elucidated.

Additional information on leishmaniasis can be found at the following website addresses:

<http://umm.drkoop.com/conditions/ency/article/01386.htm>

<http://www.medscape.com/SCP/IIM/1999/v16.n09/m1609.08.god/m1609.08.god-01.html>

<http://emedicine.com/cgi-bin/foxweb.exe/showsection@d:/em/a?book=emerg&topicid=296> ■

Reported Communicable Diseases, North Carolina, January-September 2000 (by date of report)*

Prepared by: Jean Marie Maillard, Public Health Physician, General Communicable Disease Control Branch

Disease	Year-to-Date (Third Quarter)			3 rd Quarter 2000	Comments / Notes
	2000	1999	Mean (95-99)		
Brucellosis	1	0	1	0	
Campylobacter	404	423	432	176	
Chlamydia, laboratory report	16,860	16,378	13,780	5,668	
Cryptosporidiosis	21	15	–	10	Note 1 & 2
Dengue	2	0	0	1	
E. coli O157:H7	70	54	44	53	Note 3
Ehrlichiosis, Granulocytic	2	0	–	2	Note 1 & 2
Ehrlichiosis, Monocytic	6	10	–	1	Note 1 & 2
Encephalitis, California group	6	2	–	5	Note 1 & 4
Foodborne, other	7	6	31	4	
Foodborne, staphylococcal	2	52	18	1	
Gonorrhea	13,767	14,446	14,616	4,917	
Hemophilus influenzae	20	28	23	5	
Hepatitis A	116	125	113	26	
Hepatitis B, acute	182	185	209	45	
Hepatitis B, chronic	458	567	404	137	
Hepatitis C, acute	13	32	–	0	Note 1 & 4
HUS-TTP	1	7	–	1	Note 1 & 2
HIV/AIDS	876	957	1,383	277	Note 5
Legionellosis	13	13	14	5	
Leptospirosis	1	1	0	0	
Lyme disease	41	63	48	32	
Malaria	27	24	19	16	
Meningococcal disease	32	35	57	3	
Meningitis, pneumococcal	42	39	43	12	
Mumps	6	8	12	2	
Rabies, animal	442	341	491	155	
Rocky Mountain Spotted Fever	57	116	99	37	
Rubella	68	34	36	41	
Salmonellosis	829	927	908	473	
Shigellosis	167	163	380	102	
Strepto. A, invasive	68	32	–	10	Note 2
Syphilis, total	1,116	1,168	1,385	369	Note 6
Toxic Shock Syndrome	5	0	2	5	
Tuberculosis	266	330	317	55	
Tularemia	2	1	1	0	
Typhoid Fever	2	3	2	2	
Vibrio vulnificus	2	4	–	1	
Vibrio, other	7	6	–	5	Note 2
Vanco. Resistant Enterococci	322	207	–	128	Note 2
Whooping cough	77	86	92	28	

Preliminary data, as of 10/1/2000. Quarters are defined as 13-week periods.

Notes: 1. Not reportable in this entire time period; 2. Became reportable 8/1/98; 3. Became reportable 10/1/94; 4. Became reportable as such 8/1/98; previously within other category (“Encephalitis”; and “Hepatitis, non A-non B”); 5. Earliest report with HIV infection or AIDS diagnosis; 6. Primary, secondary and early latent syphilis; 7. Became reportable 7/1/97.

Rabies Information for Healthcare Providers

Prepared by Dr. Lee Hunter, Public Health Veterinarian, Occupational and Environmental Epidemiology Branch

An educational CD titled **Rabies Information for the Medical Professional** is now available from the Veterinary Public Health Program. This program was custom written by the Medical College of South Carolina to encompass situations experienced by medical professionals in North Carolina.

The program contains:

- ◆ Basic information about rabies including signs of disease, the routes of transmission, and relative risks of different types of exposure
- ◆ Basic statistics about cases of rabies in animals in N.C. during the past decade, including graphics
- ◆ The disease in humans and animals
 - The clinical phases of rabies in people
 - Case studies of human rabies cases
- ◆ Information about issues to consider following the bite of a person by:
 - Dogs/cats/ferrets
 - Wild animals, including raccoons/foxes/skunks and bats
- ◆ What constitutes an exposure
- ◆ Information about quarantine periods for animals that have bitten a person
- ◆ Information about the laboratory diagnosis of rabies, where it is done, how to submit specimens and how results are transmitted
- ◆ Treatment materials, regimens and schedules
- ◆ An electronic copy of **Management of Animal Bites** by the N.C. Department of Health and Human Services
- ◆ An electronic copy of **Human Rabies Prevention - United States, 1999: Recommendations of the Advisory Committee on Immunizations Practices** published in the *Morbidity and Mortality Weekly Report* by the Centers for Disease Control and Prevention
- ◆ Telephone numbers for local health departments
- ◆ **Telephone numbers for consultation with the state veterinary public health office 24 hours per day.**



The CD is written for PCs and requires Windows 95. It is available free of charge. Because the program may be installed on multiple computers and/or duplicated in accordance within the restrictions of its copyright, we ask that only one copy be ordered per practice, please.

You may request a copy by fax (919-733-9555); please include the name of the person requesting the CD, the name of the practice, and a complete mailing address with ZIP code. You may also send a request to us at:

Educational CD Request
Veterinary Public Health
1912 Mail Service Center
Raleigh NC 27699-1912

You may also call (919) 733-3410 and ask the receptionist to take an order for the **Rabies Educational CD**. ■

Contact Information

Prepared by Jessica Collins, Office Assistant, Epidemiology Section Office

A. Dennis McBride, MD, MPH, State Health Director (919) 733-4392

J. Steven Cline, DDS, MPH, Section Chief, Epidemiology and Communicable Disease Section (919) 715-6733

Lisa Abatamarco, Deputy Section Chief (919) 715-6734

John Newt MacCormack, MD, MPH, Branch Head, General Communicable Disease Control (919) 715-7394

William Tynan, MD, MPH, Branch Head, Occupational and Environmental Epidemiology (919) 715-6425


Evelyn Foust, Branch Head, HIV/STD Prevention and Care (919) 733-9490

Jessica Collins, Section Office, Epi Notes Contact (919) 715-6736 ■

State of North Carolina
Division of Public Health
Epidemiology and Communicable Disease Section
www.schs.state.nc.us/epi/

Dr. A. Dennis McBride, State Health Director	Epidemiology and Communicable Disease Section Office	(919) 733-3421
Dr. J. Steven Cline, Epidemiology Section Chief	Occupational and Environmental Epidemiology Branch	(919) 733-3410
	Rabies Emergency Number-Nights, Weekends, Holidays	(919) 733-3419
Managing Editor, J. Steven Cline	General Communicable Disease Control Branch	(919) 733-3419
Layout and Typesetting, Jessica Collins	EMERGENCY NUMBER-Nights, Weekends, Holidays	(919) 733-3419
	HIV/STD Prevention and Care Branch	(919) 733-7301

The NC DHHS is an equal opportunity provider and employer.

450 copies of this public document were printed at a cost of \$92 or \$.20 per copy. 10/00 



The Department of Health and Human Services does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.



State of North Carolina
Division of Public Health
Epidemiology and Communicable Disease Section
1902 Mail Service Center
Raleigh, NC 27699-1902

**PRSRT STD
U.S. POSTAGE
PAID
RALEIGH NC
Permit No. 1719**